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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/392,254	09/09/1999	YASUO YAMANAKA	0557-4758-3	9859

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ALEXANDRIA, VA 22314

EXAMINER
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UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

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DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/392,254

Applicant(s)

YAMANAKA ET AL.

Examiner

Nikolas J. Uhler

Art Unit

1773

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1773

### DETAILED ACTION

1. This office action is in response to the amendment/arguments dated 11/12/03. The prior rejections of the claims under 35 U.S.C 103(a) are withdrawn on the grounds that they are insufficient to meet the factual inquiry requirements of *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). However, this case is not in condition for allowance in lieu of the new grounds of rejection below. This office action is non-final.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 17-18, and 21-24 rejected under 35 U.S.C. 102(b) as being anticipated by Kanematsu (JP06-304973).

4. For the purpose of this examination, all references to Kanematsu refer to the certified translation of this document provided by the applicant unless otherwise specifically noted.

5. Claim 17 requires a plastic molding comprising: at least one transfer surface, the transfer surface being an optical surface; and a plurality of imperfect transfer portions each having a convex or concave shape, wherein at least one of the imperfect transfer portions is located on at least on prescribed portion of the plastic molding so as to release a residual resin-pressure and an inward deformation of the plastic molding,

Art Unit: 1773

wherein at least one of the plurality of imperfect transfer portions is formed so as to have a contour disposed apart from an edge of the transfer surface.

6. Kanematsu et al. teaches an injection molded article (equivalent to applicant's claimed plastic molding) that has a high precision mirror surface (equivalent to applicant's claimed optical transfer surface), wherein the molded article has sink marks that are present in a region outside the mirror surface of the molded article (equivalent to applicants imperfect transfer portions located on a portion of the part other than the optical surface) (see section 11). The sink marks occur as a result of a pressure difference generated between the mirror surface of the molded article and a non-mirror surface of the article. As a result the sink marks form in the non-mirror surface (and thus meet applicants requirement that the imperfect transfer portion release a residual pressure and an inward deformation of the plastic molding) (section 12). A plurality of these sink marks are formed in the non-mirror surface (thus meeting applicants requirement of a plurality of imperfect transfer portions) (see section 30).

7. With regard to the required shape of the imperfect transfer portions. The examiner acknowledges that Kanematsu fails to explicitly teach that the sink marks have a convex or concave shape. However, Kanematsu does not disclose that these sink mark constitute holes in the molded article, and thus the sink marks must either be in the form of protuberances from the surface or depressions in the surface of the non-mirror portion. In either case, the shape of the sink marks will necessarily meet the shape requirement of claim 17.

Art Unit: 1773

8. Regarding the requirement that at least one of the imperfect transfer portions have a contour disposed away from the edge of the transfer surface. The examiner acknowledges that Kanematsu does not expressly teach this limitation. However, per the description at section 30, the sink marks "r" in Kanematsu occur over a wide area of the non-mirror surface, particularly at the points where the vents (18) contact the resin in the mold. As shown by figure 1c, the transfer (mirror) surface of the molded article is represented by #13 (see section 27). Thus, Kanematsu discloses the formation of a plurality of sink marks at point 18, which is between the two mirror surfaces (13). It appears to be apparent from figure 1c that the sink marks do not reach the transfer surface, but to be clear, Kanematsu teaches that the sink marks do not form in the transfer surface 13 (see section 31), and that the sink marks do not interfere with the function of the transfer surfaces (see section 20). Thus, it is clear that the sink marks are not disposed at the surface of the transfer portion, and from the diagram it is clear that at least one sink mark has a contour away from the edge of the transfer surface. Thus, all of the limitations of claim 17 are met.

9. Claim 18 requires the molding of claim 17 to require the imperfect transfer portion to be formed in a portion other than the at least one transfer surface. This limitation is met as set forth above for claim 17. The transfer surface of Kanematsu is delineated as #13 in figure 1c, whereas the sink marks are formed at the points where the vents are located (delineated by #18).

10. Claim 21 requires essentially the same limitations as claim 17 with respect to the 1st transfer surface, and further requires a second transfer surface wherein the

Art Unit: 1773

imperfect transfer portion is formed between the first and second transfer portions.

These requirements are met as set forth above for claim 17.

11. Claim 22 requires at least one of the imperfect transfer portions to be formed in a portion of the plastic molding that has a thickness less than the maximum thickness of the molding. This limitation is met as described above and as shown in figure 1c, as a plurality of sink marks are formed in the molding of Kanematsu, and at least one of these sink marks is not disposed in the thickest region of the molding.

12. Claim 23 requires the molding of claim 17 to comprise two imperfect transfer portions, wherein both of these imperfect transfer portions are formed in the same imperfect transfer surface. These limitations are met as set forth above, as Kanematsu teaches forming a plurality of sink marks in the same imperfect transfer portion, as shown by figure 1c and described at section 31.

13. Claim 24 requires the plastic molding of claim 17 to be an optical element. Given that the molding of Kanematsu has a mirror surface, it is reasonable to say that the molding is an optical element. Thus, this limitation is met.

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 17-18 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanematsu (JP06-304973).

Art Unit: 1773

16. Kanematsu is primarily relied upon as set forth by the examiner in the 102(b) rejection above. However, should applicant traverse the examiners assertion that at least one of the imperfect transfer portions in Kanematsu has a contour disposed away from an edge of the transfer surface, the examiner feels that even if it is determined that Kanematsu doesn't explicitly teach this requirement, it would be an obvious modification to one of ordinary skill in the art at the time the invention was made. Kanematsu specifically teaches that the sink marks are desirably formed so that they do not impact the functionality of the mirror surface, and teaches that the position of the sink marks is determined primarily by the position of vents within the mold (see section 30).

17. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the vent placement in the mold of Kanematsu so as to prevent sink mark formation near an edge of the mirror surface.

18. One would have been motivated to make this modification in lieu of the fact that one of ordinary skill in the art would have recognized that forming a sink mark near the edge of a mirror surface would likely detract from the ability of the mirror surface to perform its function (because it would reduce the thickness of the mirror portion at that edge, thus likely reducing the reflectivity at that edge), and the fact that Kanematsu specifically teaches forming sink marks at locations that do not impair the function of the mirror layer.

19. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanematsu as applied to claim 18 above, and further in view of Hirofumi (JP06-315961).

Art Unit: 1773

20. References to Hirofumi refer to the English translation of this document provided by the applicant.

21. Kanematsu fails to teach forming imperfect transfer portions in an extension surface of the at least one transfer surface, as required by claim 19.

22. However, Hirofumi teaches that sink marks in plastic moldings impair the beauty of the molded article and decreases the value of the product as a result. To correct this issue, Hirofumi teaches utilizing a rib portion attached to the plastic molding, a utilizing a heat treatment step to form the sink marks on the rib portion (section 3). Thus, the sink marks can be easily hidden from view and the beauty of the article is not decreased (section 9).

23. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a rib portion as taught by Hirofumi to the molded article taught by Kanematsu, and to form the sink marks on the rib portion.

24. One would have been motivated to make this modification in lieu of the fact that Hirofumi teaches that when sink marks are formed on a rib portion of a molded article they can be more easily hidden, thereby preserving the beauty of the molded article.

### ***Response to Arguments***

25. Applicant's arguments with respect to claims 17-19 and 21-24 have been considered but are moot in view of the new ground(s) of rejection. The clarification of the grounds of rejection is believed to address each of the arguments asserted by the applicant in the response.



Art Unit: 1773


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhler whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J. Thibodeau can be reached on 703-308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.

Nju  
Nju

  
Paul Thibodeau  
Supervisory Patent Examiner  
Technology Center 1700